

Source: Response Protocol Toolbox - Module 2: Contamination Threat Management Guide
http://www.epa.gov/safewater/watersecurity/pubs/guide_response_module2.pdf

Response Planning Matrix

Three factors should be considered when planning for decisions regarding actions taken in response to a contamination threat: 1) the credibility of the threat; 2) the potential consequences of the contamination incident; and 3) the impact of the response action on consumers. A “Response Planning Matrix” is a tool that may help decision officials to consider these three factors when planning for response decisions and might serve as a quick reference guide during an actual crisis. The matrix is a simple tabular summary that lists the three levels of a threat evaluation, the potential consequences of a threat (both the number of people affected and health effects), and potential response actions along with their impacts on consumers.

By planning for threats with different levels of credibility and potential consequences, the utility will be better able to make appropriate response decisions quickly. The Response Planning Matrix will also make it clear when response decisions need to be elevated to a higher level within the utility chain of command or coordinated with an external organization, such as the public health agency. Furthermore, an understanding of the potential impacts of various response actions will provide an opportunity to develop strategies for managing and minimizing adverse impacts. For example, the impact associated with issuing a “do not drink” notice might be mitigated through a public awareness program. This outreach approach could educate the public to the possibility of short duration water outages and encourage them to store a supply of emergency drinking water. Such practice is common in areas prone to natural disasters such as earthquakes and hurricanes.

The blank matrix provided in the appendix can be used as an aid during emergency response planning. By working through scenarios with different combinations of credibility, consequences, and impacts, it is possible to gage the relative importance of various factors. For example, it may be determined that the response decisions are influenced more by ‘the number of people affected’ than the ‘health effects.’ Since there are a limited number of response actions available to any utility, it is likely that the number of combinations in the matrix will reduce to just a few, and the factors that have the greatest impact on response decisions will become apparent.

Once the planning process is complete, the “Response Planning Matrix” can be completed as necessary to serve as a quick reference guide that could be incorporated in a set of “*Response Guidelines*.” The tool may also need to be modified from its current form in Appendix 8.1 to be consistent with a utility’s planning process (for example, the “number of people affected” might be changed to “area affected”). During a crisis, such a tool can efficiently guide the WUERM toward appropriate planned response actions under various conditions or scenarios. (*RPTB Module 2, pp.17-18*)

Response Planning Matrix (RPTB Module 2, p.71)

Incident			Response	
Credibility	Consequences		Possible Actions	Anticipated Impacts on the public
	# people affected	Health Impact		
Possible	10's	Minor		
		Moderate		
		Severe		
	100's	Minor		
		Moderate		
		Severe		
	1,000's	Minor		
		Moderate		
		Severe		
Credible	10's	Minor		
		Moderate		
		Severe		
	100's	Minor		
		Moderate		
		Severe		
	1,000's	Minor		
		Moderate		
		Severe		
Confirmed	10's	Minor		
		Moderate		
		Severe		
	100's	Minor		
		Moderate		
		Severe		
	1,000's	Minor		
		Moderate		
		Severe		

Threat Evaluation Worksheet

A *threat warning* is an unusual event, observation, or discovery that indicates the potential for contamination and initiates actions to address the concern. Threat warnings may come from several sources from both within and outside of the water utilities as shown in Figure 2-2.

Information extracted from details of the threat warning is critical to determining whether or not a contamination threat is possible, and different types of warnings will have different levels of initial credibility. For example, a public health notification of unusual disease or death in the population would have a higher degree of initial credibility than a report of unusual water quality based on general parameters (e.g., pH, chlorine residual, etc.). Some warnings may be judged so reliable that the threat is deemed ‘credible’ solely on the basis of information about the threat warning, while others may be almost instantly dismissed as impossible. Each type of threat warning depicted in Figure 2-2 is discussed in greater detail in following subsections, particularly with respect to the initial reliability of the information from such incidents.



Figure 2-2. Summary of Threat Warnings

Regardless of the nature and source of the threat warning, it is critical that protocols be in place to report the warning to the WUERM as quickly as possible. Utilities and communities should develop communications channels and procedures to ensure that threat warnings can be accurately and quickly reported on 24/7 basis. A “Threat Evaluation Worksheet” is provided in Appendix 8.2 to help organize the information used throughout the threat evaluation, beginning with a summary of information about the threat warning itself. (*RPTB Module 2, pp.19-20*)

Threat Evaluation Worksheet (RPTB Module 2, pp.72-76)

INSTRUCTIONS

The purpose of this worksheet is to help organize information about a contamination threat warning that would be used during the Threat Evaluation Process. The individual responsible for conducting the Threat Evaluation (e.g., the WUERM) should complete this worksheet. The worksheet is generic to accommodate information from different types of threat warnings; thus, there will likely be information that is unavailable or not immediately available. Other forms in the Appendices are provided to augment the information in this worksheet.

THREAT WARNING INFORMATION

Date/Time threat warning discovered: _____

Name of person who discovered threat warning: _____

Type of threat warning:

- | | | |
|--|--|---|
| <input type="checkbox"/> Security breach | <input type="checkbox"/> Witness account | <input type="checkbox"/> Phone threat |
| <input type="checkbox"/> Written threat | <input type="checkbox"/> Law enforcement | <input type="checkbox"/> Unusual water quality |
| <input type="checkbox"/> News media | <input type="checkbox"/> Consumer complaints | <input type="checkbox"/> Public health notification |
| <input type="checkbox"/> Other _____ | | |

Identity of the contaminant: ☐ Known ☐ Suspected ☐ Unknown

If known or suspected, provide additional detail below

☐ Chemical ☐ Biological ☐ Radiological

Describe _____

Time of contamination: ☐ Known ☐ Estimated ☐ Unknown

If known or estimated, provide additional detail below

Date and time of contamination: _____

Additional Information: _____

Mode of contamination: ☐ Known ☐ Suspected ☐ Unknown

If known or suspected, provide additional detail below

Method of addition: ☐ Single dose ☐ Over time ☐ Other _____

Amount of material: _____

Additional Information: _____

Site of contamination: ☐ Known ☐ Suspected ☐ Unknown

If known or suspected, provide additional detail below

Number of sites: _____

Provide the following information for each site.

Site #1

Site Name: _____

Type of facility

- | | | |
|--|--|---|
| <input type="checkbox"/> Source water | <input type="checkbox"/> Treatment plant | <input type="checkbox"/> Pump station |
| <input type="checkbox"/> Ground storage tank | <input type="checkbox"/> Elevated storage tank | <input type="checkbox"/> Finished water reservoir |
| <input type="checkbox"/> Distribution main | <input type="checkbox"/> Hydrant | <input type="checkbox"/> Service connection |
| <input type="checkbox"/> Other _____ | | |

Address: _____

Additional Site Information: _____

Site #2

Site Name: _____

Type of facility

- | | | |
|--|--|---|
| <input type="checkbox"/> Source water | <input type="checkbox"/> Treatment plant | <input type="checkbox"/> Pump station |
| <input type="checkbox"/> Ground storage tank | <input type="checkbox"/> Elevated storage tank | <input type="checkbox"/> Finished water reservoir |
| <input type="checkbox"/> Distribution main | <input type="checkbox"/> Hydrant | <input type="checkbox"/> Service connection |
| <input type="checkbox"/> Other _____ | | |

Address: _____

Additional Site Information: _____

Site #3

Site Name: _____

Type of facility

- | | | |
|--|--|---|
| <input type="checkbox"/> Source water | <input type="checkbox"/> Treatment plant | <input type="checkbox"/> Pump station |
| <input type="checkbox"/> Ground storage tank | <input type="checkbox"/> Elevated storage tank | <input type="checkbox"/> Finished water reservoir |
| <input type="checkbox"/> Distribution main | <input type="checkbox"/> Hydrant | <input type="checkbox"/> Service connection |
| <input type="checkbox"/> Other _____ | | |

Address: _____

Additional Site Information: _____

ADDITIONAL INFORMATION

Has there been a breach of security at the suspected site? ☐ Yes ☐ No

If "Yes", review the completed 'Security Incident Report' (Appendix 8.3)

Are there any witness accounts of the suspected incident? ☐ Yes ☐ No

If "Yes", review the completed 'Witness Account Report' (Appendix 8.4)

Was the threat made verbally over the phone? ☐ Yes ☐ No

If "Yes", review the completed 'Phone Threat Report' (Appendix 8.5)

Was a written threat received? ☐ Yes ☐ No

If "Yes", review the completed 'Written Threat Report' (Appendix 8.6)

Are there unusual water quality data or consumer complaints? ☐ Yes ☐ No

If "Yes", review the completed 'Water Quality/Consumer Complaint Report' (Appendix 8.7)

Are there unusual symptoms or disease in the population? ☐ Yes ☐ No

If "Yes", review the completed 'Public Health Report' (Appendix 8.8)

Is a 'Site Characterization Report' available? ☐ Yes ☐ No

If "Yes", review the completed 'Site Characterization Report' (Module 3, Appendix 8.3)

Are results of sample analysis available? ☐ Yes ☐ No

If "Yes", review the analytical results report, including appropriate QA/QC data

Is a 'Contaminant Identification Report' available? ☐ Yes ☐ No

If "Yes", review the completed 'Sample Analysis Report' (Module 5, Appendix 8.1)

Is there relevant information available from external sources? ☐ Yes ☐ No

Check all that apply

- | | | |
|--|---|--|
| <input type="checkbox"/> Local law enforcement | <input type="checkbox"/> FBI | <input type="checkbox"/> DW primacy agency |
| <input type="checkbox"/> Public health agency | <input type="checkbox"/> Hospitals / 911 call centers | <input type="checkbox"/> US EPA / Water ISAC |
| <input type="checkbox"/> Media reports | <input type="checkbox"/> Homeland security alerts | <input type="checkbox"/> Neighboring utilities |
| <input type="checkbox"/> Other | | |

Point of Contact: _____

Summary of key information from external sources (provide detail in attachments as necessary):

THREAT EVALUATION

Has normal activity been investigated as the cause of the threat warning? ☐ Yes ☐ No

Normal activities to consider

- | | |
|--|---|
| <input type="checkbox"/> Utility staff inspections | <input type="checkbox"/> Routine water quality sampling |
| <input type="checkbox"/> Construction or maintenance | <input type="checkbox"/> Contractor activity |
| <input type="checkbox"/> Operational changes | <input type="checkbox"/> Water quality changes with a known cause |
| <input type="checkbox"/> Other _____ | |

Is the threat 'possible'? ☐ Yes ☐ No

Summarize the basis for this determination: _____

Response to a 'possible' threat:

- | | | |
|--|--|--|
| <input type="checkbox"/> None | <input type="checkbox"/> Site characterization | <input type="checkbox"/> Isolation/containment |
| <input type="checkbox"/> Increased monitoring/security | <input type="checkbox"/> Other _____ | |

Is the threat 'credible'? ☐ Yes ☐ No

Summarize the basis for this determination: _____

Response to a 'credible' threat:

- | | | |
|---|--|---|
| <input type="checkbox"/> Sample analysis | <input type="checkbox"/> Site characterization | <input type="checkbox"/> Isolation/containment |
| <input type="checkbox"/> Partial EOC activation | <input type="checkbox"/> Public notification | <input type="checkbox"/> Provide alternate water supply |
| <input type="checkbox"/> Other _____ | | |

Has a contamination incident been confirmed? ☐ Yes ☐ No

Summarize the basis for this determination: _____

Response to a confirmed incident:

- | | | |
|--|--|---|
| <input type="checkbox"/> Sample analysis | <input type="checkbox"/> Site characterization | <input type="checkbox"/> Isolation/containment |
| <input type="checkbox"/> Full EOC activation | <input type="checkbox"/> Public notification | <input type="checkbox"/> Provide alternate water supply |
| <input type="checkbox"/> Initiate remediation and recovery | | |
| <input type="checkbox"/> Other _____ | | |

How do other organizations characterize the threat?

Organization	Evaluation	Comment
<input type="checkbox"/> Local Law Enforcement	<input type="checkbox"/> Possible <input type="checkbox"/> Credible <input type="checkbox"/> Confirmed	
<input type="checkbox"/> FBI	<input type="checkbox"/> Possible <input type="checkbox"/> Credible <input type="checkbox"/> Confirmed	
<input type="checkbox"/> Public Health Agency	<input type="checkbox"/> Possible <input type="checkbox"/> Credible <input type="checkbox"/> Confirmed	
<input type="checkbox"/> Drinking Water Primacy Agency	<input type="checkbox"/> Possible <input type="checkbox"/> Credible <input type="checkbox"/> Confirmed	
<input type="checkbox"/> Other	<input type="checkbox"/> Possible <input type="checkbox"/> Credible <input type="checkbox"/> Confirmed	
<input type="checkbox"/> Other	<input type="checkbox"/> Possible <input type="checkbox"/> Credible <input type="checkbox"/> Confirmed	

SIGNOFF

Name of person responsible for threat evaluation:

Print name _____

Signature _____

Date/Time: _____

Security Incident Report Form

A security breach is an unauthorized intrusion into a secured facility that may be discovered through direct observation, an alarm trigger, or signs of intrusion (e.g., cut locks, open doors, cut fences). Security breaches are probably the most common threat warnings, but in **most** cases are related to day-to-day operation and maintenance within the water system. Other security breaches may be due to criminal activity such as trespassing, vandalism, and theft rather than attempts to contaminate the water. However, it is prudent to assess any security breach with respect to the possibility of contamination.

When evaluating whether or not a security breach is a possible contamination threat, it is important to consider the circumstances of the incident:

- The mode of discovery of the security breach, e.g., discovery by utility crews, law enforcement, a citizen, security alarm, etc. “Is the source reliable?”
- The time window in which the security breach occurred. “Can a time window be established for the incident based on the times of previous visits to the site and/or the time of discovery?”
- The area in which the security breach occurred. “Is there a history of break-ins, vandalism, or trespassing in this area?”
- Any other information or circumstances about the incident. “Are there signs of theft, vandalism, or mischief?” “Are there indications that multiple individuals were involved?” “Was anything left at the site?”

A “Security Incident Report Form” is included in Appendix 8.3 to assist in documenting the available information about the breach and support the threat evaluation.

If the site of the security breach is equipped with security cameras, the footage should be reviewed as part of the threat evaluation. A video record of the security breach can provide valuable information to help distinguish among normal operational activity, simple trespassing, and ‘possible’ or ‘credible’ contamination threats. Furthermore, it can help to establish the actual time of the security breach, which is critical for estimating the area of a distribution system that would be affected if a contaminant were actually introduced (i.e., such information would aid in consequence analysis).

The information about a security breach available at the time of discovery may be sufficient to determine whether or not a threat is ‘possible.’ However, in most cases additional information will be necessary to determine whether or not the threat is ‘credible.’ Information collected during *site characterization* activities will be critical to the threat evaluation at this later stage, as discussed in Section 4.1.1. (*RPTB Module 2, pp. 20-21*)

Security Incident Report Form (RPTB Module 2, pp.77-79)

INSTRUCTIONS

The purpose of this form is to help organize information about a security incident, typically a security breach, which may be related to a water contamination threat. The individual who discovered the security incident, such as a security supervisor, the WUERM, or another designated individual may complete this form. This form is intended to summarize information about a security breach that may be relevant to the threat evaluation process. This form should be completed for each location where a security incident was discovered.

DISCOVERY OF SECURITY INCIDENT

Date/Time security incident discovered: _____

Name of person who discovered security incident: _____

Mode of discovery:

- | | | |
|---|--|---|
| <input type="checkbox"/> Alarm (building) | <input type="checkbox"/> Alarm (gate/fence) | <input type="checkbox"/> Alarm (access hatch) |
| <input type="checkbox"/> Video surveillance | <input type="checkbox"/> Utility staff discovery | <input type="checkbox"/> Citizen discovery |
| <input type="checkbox"/> Suspect confession | <input type="checkbox"/> Law enforcement discovery | |
| <input type="checkbox"/> Other _____ | | |

Did anyone observe the security incident as it occurred? ☐ Yes ☐ No

If "Yes", complete the 'Witness Account Report' (Appendix 8.4)

SITE DESCRIPTION

Site Name: _____

Type of facility

- | | | |
|--|--|---|
| <input type="checkbox"/> Source water | <input type="checkbox"/> Treatment plant | <input type="checkbox"/> Pump station |
| <input type="checkbox"/> Ground storage tank | <input type="checkbox"/> Elevated storage tank | <input type="checkbox"/> Finished water reservoir |
| <input type="checkbox"/> Distribution main | <input type="checkbox"/> Hydrant | <input type="checkbox"/> Service connection |
| <input type="checkbox"/> Other _____ | | |

Address: _____

Additional Site Information: _____

BACKGROUND INFORMATION

Have the following "normal activities" been investigated as potential causes of the security incident?

- | | |
|--|--|
| <input type="checkbox"/> Alarms with known and harmless causes | <input type="checkbox"/> Utility staff inspections |
| <input type="checkbox"/> Routine water quality sampling | <input type="checkbox"/> Construction or maintenance |
| <input type="checkbox"/> Contractor activity | <input type="checkbox"/> Other _____ |

Was this site recently visited *prior* to the security incident? ☐ Yes ☐ No

If "Yes," provide additional detail below

Date and time of previous visit: _____

Name of individual who visited the site: _____

Additional Information: _____

Has *this location* been the site of previous security incidents? ☐ Yes ☐ No

If "Yes," provide additional detail below

Date and time of most recent security incident: _____

Description of incident: _____

What were the results of the threat evaluation for this incident?

☐ 'Possible'

☐ 'Credible'

☐ 'Confirmed'

Have security incidents occurred at *other locations* recently? ☐ Yes ☐ No

If "Yes," complete additional 'Security Incident Reports' (Appendix 8.3) for each site

Name of 1st additional site: _____

Name of 2nd additional site: _____

Name of 3^d additional site: _____

SECURITY INCIDENT DETAILS

Was there an alarm(s) associated with the security incident? ☐ Yes ☐ No

If "Yes," provide additional detail below

Are there sequential alarms (e.g., alarm on a gate and a hatch)? ☐ Yes ☐ No

Date and time of alarm(s): _____

Describe alarm(s): _____

Is video surveillance available from the site of the security incident? ☐ Yes ☐ No

If "Yes," provide additional detail below

Date and time of video surveillance: _____

Describe surveillance: _____

Unusual equipment found at the site and time of discovery of the security incident:

- | | |
|--|--|
| <input type="checkbox"/> Discarded PPE (e.g., gloves, masks) | <input type="checkbox"/> Empty containers (e.g., bottles, drums) |
| <input type="checkbox"/> Tools (e.g., wrenches, bolt cutters) | <input type="checkbox"/> Hardware (e.g., valves, pipe) |
| <input type="checkbox"/> Lab equipment (e.g., beakers, tubing) | <input type="checkbox"/> Pumps or hoses |
| <input type="checkbox"/> None | <input type="checkbox"/> Other _____ |

Describe equipment: _____

Unusual vehicles found at the site and time of discovery of the security incident:

- | | | |
|--|---|---------------------------------------|
| <input type="checkbox"/> Car/sedan | <input type="checkbox"/> SUV | <input type="checkbox"/> Pickup truck |
| <input type="checkbox"/> Flatbed truck | <input type="checkbox"/> Construction vehicle | <input type="checkbox"/> None |
| <input type="checkbox"/> Other _____ | | |

Describe vehicles (including make/model/year/color, license plate #, and logos or markings): _____

Signs of tampering at the site and time of discovery of the security incident:

- | | |
|--|--|
| <input type="checkbox"/> Cut locks/fences | <input type="checkbox"/> Open/damaged gates, doors, or windows |
| <input type="checkbox"/> Open/damaged access hatches | <input type="checkbox"/> Missing/damaged equipment |
| <input type="checkbox"/> Facility in disarray | <input type="checkbox"/> None |
| <input type="checkbox"/> Other _____ | |

Are there signs of sequential intrusion (e.g., locks removed from a gate and hatch)? ☐ Yes
☐ No

Describe signs of tampering: _____

Signs of hazard at the site and time of discovery of the security incident:

- | | |
|--|---|
| <input type="checkbox"/> Unexplained or unusual odors | <input type="checkbox"/> Unexplained dead animals |
| <input type="checkbox"/> Unexplained dead or stressed vegetation | <input type="checkbox"/> Unexplained liquids |
| <input type="checkbox"/> Unexplained clouds or vapors | <input type="checkbox"/> None |
| <input type="checkbox"/> Other _____ | |

Describe signs of hazard: _____

SIGNOFF

Name of person responsible for documenting the security incident:

Print name _____

Signature _____

Date/Time: _____

Witness Account Report Form

A threat warning may come from an individual who directly witnesses suspicious activity, such as trespassing, breaking and entering, or some other form of tampering. The witness could be either a utility employee or a bystander. As a result, the witness report may come directly to the utility, or may be directed to a 911 operator or law enforcement agency. If the witness reports the incident to a law enforcement agency, a written or verbal report from the police may provide some insight regarding the possibility of contamination. Furthermore, if the suspect(s) was apprehended, the police report may include additional insight regarding the motives and circumstances of the episode. It is important that the utility establish a relationship with local law enforcement agents, as individuals observing suspicious behavior near drinking water facilities will likely call 911 or law enforcement rather than the water utility.

It is important to collect as much information as possible from the witness to support the initial threat evaluation. A “Witness Account Report Form” is included in Appendix 8.4 to help document the witness account. If the witness has not already been interviewed, or if the interview did not cover all aspects of the event that are relevant to the utility’s threat evaluation, the WUERM should contact law enforcement and arrange to interview with the witness. In some cases, law enforcement officials may prefer to conduct the interview themselves, but the WUERM may be able to suggest certain questions that are relevant to the threat from the perspective of the water utility. Information from the witness that would be important to the utility’s evaluation includes the number of individuals, their actions at the site, equipment or containers handled by the perpetrators, and anything taken from the site. It is also important to consider the reliability of the source when evaluating information from any witness account. For example, a threat warning delivered by an individual with a history of filing false reports with police should be considered suspect until corroborated by additional information. On the other hand, direct observation by utility staff would be considered a reliable threat warning. (*RPTB Module 2, pp. 21-22*)

Witness Account Report Form (RPTB Module 2, pp.80-83)

INSTRUCTIONS

The purpose of this form is to document the observations of a witness to activities that might be considered an incident warning. The individual interviewing the witness, or potentially the witness, should complete this form. This may be the WUERM or an individual designated by incident command to perform the interview. If law enforcement is conducting the interview (which may often be the case), then this form may serve as a prompt for "utility relevant information" that should be pursued during the interview. This form is intended to consolidate the details of the witness account that may be relevant to the threat evaluation process. This form should be completed for each witness that is interviewed.

BASIC INFORMATION

Date/Time of interview: _____

Name of person interviewing the witness: _____

Witness contact information

Full Name: _____

Address: _____

Day-time phone: _____

Evening phone: _____

E-mail address: _____

Reason the witness was in the vicinity of the suspicious activity: _____

WITNESS ACCOUNT

Date/Time of activity: _____

Location of activity:

Site Name: _____

Type of facility

☐ Source water

☐ Treatment plant

☐ Pump station

☐ Ground storage tank

☐ Elevated storage tank

☐ Finished water reservoir

☐ Distribution main

☐ Hydrant

☐ Service connection

☐ Other _____

Address: _____

Additional Site Information: _____

Type of activity

- | | | |
|--------------------------------------|------------------------------------|--|
| <input type="checkbox"/> Trespassing | <input type="checkbox"/> Vandalism | <input type="checkbox"/> Breaking and entering |
| <input type="checkbox"/> Theft | <input type="checkbox"/> Tampering | <input type="checkbox"/> Surveillance |
| <input type="checkbox"/> Other | | |

Additional description of the activity _____

Description of suspects

Were suspects present at the site? ☐ Yes ☐ No

How many suspects were present? _____

Describe each suspect's appearance:

Suspect #	Sex	Race	Hair color	Clothing	Voice
1					
2					
3					
4					
5					
6					

Where any of the suspects wearing uniforms? ☐ Yes ☐ No

If "Yes," describe the uniform(s): _____

Describe any other unusual characteristics of the suspects: _____

Did any of the suspects notice the witness? ☐ Yes ☐ No

If "Yes," how did they respond: _____

Vehicles at the site

Were vehicles present at the site? ☐ Yes ☐ No

Did the vehicles appear to belong to the suspects? ☐ Yes ☐ No

How many vehicles were present? _____

Describe each vehicle:

Vehicle #	Type	Color	Make	Model	License plate
1					
2					
3					
4					
5					
6					

Where there any logos or distinguishing markings on the vehicles? ☐ Yes ☐ No
 If "Yes," describe: _____

Provide any additional detail about the vehicles and how they were used (if at all): _____

Equipment at the site

Was any unusual equipment present at the site? ☐ Yes ☐ No

- | | |
|--|---|
| <input type="checkbox"/> Explosive or incendiary devices | <input type="checkbox"/> Firearms |
| <input type="checkbox"/> PPE (e.g., gloves, masks) | <input type="checkbox"/> Containers (e.g., bottles, drums) |
| <input type="checkbox"/> Tools (e.g., wrenches, bolt cutters) | <input type="checkbox"/> Hardware (e.g., valves, pipe, hoses) |
| <input type="checkbox"/> Lab equipment (e.g., beakers, tubing) | <input type="checkbox"/> Pumps and related equipment |
| <input type="checkbox"/> Other _____ | |

Describe the equipment and how it was being used by the suspects (if at all): _____

Unusual conditions at the site

Were there any unusual conditions at the site? ☐ Yes ☐ No

- | | | |
|---|---|---|
| <input type="checkbox"/> Explosions or fires | <input type="checkbox"/> Fogs or vapors | <input type="checkbox"/> Unusual odors |
| <input type="checkbox"/> Dead/stressed vegetation | <input type="checkbox"/> Dead animals | <input type="checkbox"/> Unusual noises |
| <input type="checkbox"/> Other _____ | | |

Describe the site conditions: _____

Additional observations

Describe any additional details from the witness account: _____

SIGNOFF

Name of interviewer:

Print name _____

Signature _____

Date/Time: _____

Name of witness:

Print name _____

Signature _____

Date/Time: _____

Phone and Written Threat Report Forms

A threat may be made directly to the water utility, either verbally or in writing. Verbal threats made over the phone are historically the most common type of direct threats from perpetrators; however, written threats have also been delivered to utilities. Report forms for both phone and written threats are provided in Appendices 8.5 and 8.6, respectively. A direct notification should be evaluated with respect to both the nature of the threat and specificity of information provided in the threat. In the case of a phone threat, the caller should be questioned about the specifics of the threat: time and location of the incident, name and amount of the contaminant, reason for the attack, the name and location of the caller, etc. The characteristics of the caller should be noted as well (e.g., male/female, accent, tone of voice, background noise, etc.). Given the number of different individuals that might receive a phone threat at a utility, there is a need for training and frequent updates regarding procedures for handling phone threats. In a similar manner, mailroom staff should be provided with training regarding the recognition and handling of suspicious packages and letters. Guidance for dealing with suspicious packages has issued been issued by the US Postal Service (http://www.usps.com/news/2001/press/pr01_1022gsa.htm).

Since tampering with a drinking water system is a crime under the Safe Drinking Water Act, and may involve several other felony acts, any threats received by a utility should be reported to the appropriate authorities, including law enforcement and drinking water primacy agency. (*RPTB Module 2, p.22*)

Phone Threat Report Form (RPTB Module 2, pp.84-86)

INSTRUCTIONS

This form is intended to be used by utility staff that regularly answer phone calls from the public (e.g., call center operators). The purpose of this form is to help these staff capture as much information from a threatening phone call while the caller is on the line. It is important that the operator keep the caller on the line as long as possible in order to collect additional information. Since this form will be used during the call, it is important that operators become familiar with the content of the form. The sections of the form are organized with the information that should be collected during the call at the front of the form (i.e., Basic Call Information and Details of Threat) and information that can be completed immediately following the call at the end of the form (i.e., the description of the caller). The information collected on this form will be critical to the threat evaluation process.

Remember, tampering with a drinking water system is a crime under the SDWA Amendments!

THREAT NOTIFICATION

Name of person receiving the call: _____

Date phone call received: _____

Time phone call received: _____

Time phone call ended: _____

Duration of phone call: _____

Originating number: _____

Originating name: _____

*If the number/name is not displayed on the caller ID, press *57 (or call trace) at the end of the call and inform law enforcement that the phone company may have trace information.*

Is the connection clear?

☐ Yes

☐ No

Could call be from a wireless phone?

☐ Yes

☐ No

DETAILS OF THREAT

Has the water already been contaminated?

☐ Yes

☐ No

Date and time of contaminant introduction known?

☐ Yes

☐ No

Date and time if known: _____

Location of contaminant introduction known?

☐ Yes

☐ No

Site Name: _____

Type of facility

☐ Source water

☐ Treatment plant

☐ Pump station

☐ Ground storage tank

☐ Elevated storage tank

☐ Finished water reservoir

☐ Distribution main

☐ Hydrant

☐ Service connection

☐ Other _____

Address: _____

Additional Site Information: _____

Name or type of contaminant known?

☐ Yes

☐ No

Type of contaminant

☐ Chemical

☐ Biological

☐ Radiological

Specific contaminant name/description: _____

Mode of contaminant introduction known?

☐ Yes

☐ No

Method of addition:

☐ Single dose

☐ Over time

☐ Other _____

Amount of material: _____

Additional Information: _____

Motive for contamination known?

☐ Yes

☐ No

☐ Retaliation/revenge

☐ Political cause

☐ Religious doctrine

☐ Other _____

Describe motivation: _____

CALLER INFORMATION

Basic Information:

Stated name: _____

Affiliation: _____

Phone number: _____

Location/address: _____

Caller's Voice:

Did the voice sound disguised or altered?

☐ Yes

☐ No

Did the call sound like a recording?

☐ Yes

☐ No

Did the voice sound?

☐ Male / ☐ Female

☐ Young / ☐ Old

Did the voice sound familiar?

☐ Yes

☐ No

If 'Yes,' who did it sound like? _____

Did the caller have an accent?

☐ Yes

☐ No

If 'Yes,' what nationality? _____

How did the caller sound or speak?

☐ Educated

☐ Well spoken

☐ Illiterate

☐ Irrational

☐ Obscene

☐ Incoherent

☐ Reading a script

☐ Other _____

What was the caller's tone of voice?

- | | | | |
|--------------------------------------|----------------------------------|------------------------------------|--|
| <input type="checkbox"/> Calm | <input type="checkbox"/> Angry | <input type="checkbox"/> Lispering | <input type="checkbox"/> Stuttering/broken |
| <input type="checkbox"/> Excited | <input type="checkbox"/> Nervous | <input type="checkbox"/> Sincere | <input type="checkbox"/> Insincere |
| <input type="checkbox"/> Slow | <input type="checkbox"/> Rapid | <input type="checkbox"/> Normal | <input type="checkbox"/> Slurred |
| <input type="checkbox"/> Soft | <input type="checkbox"/> Loud | <input type="checkbox"/> Nasal | <input type="checkbox"/> Clearing throat |
| <input type="checkbox"/> Laughing | <input type="checkbox"/> Crying | <input type="checkbox"/> Clear | <input type="checkbox"/> Deep breathing |
| <input type="checkbox"/> Deep | <input type="checkbox"/> High | <input type="checkbox"/> Raspy | <input type="checkbox"/> Cracking |
| <input type="checkbox"/> Other _____ | | | |

Were there background noises coming from the caller's end?

- | | |
|--|----------------|
| <input type="checkbox"/> Silence | |
| <input type="checkbox"/> Voices | describe _____ |
| <input type="checkbox"/> Children | describe _____ |
| <input type="checkbox"/> Animals | describe _____ |
| <input type="checkbox"/> Factory sounds | describe _____ |
| <input type="checkbox"/> Office sounds | describe _____ |
| <input type="checkbox"/> Music | describe _____ |
| <input type="checkbox"/> Traffic/street sounds | describe _____ |
| <input type="checkbox"/> Airplanes | describe _____ |
| <input type="checkbox"/> Trains | describe _____ |
| <input type="checkbox"/> Ships or large boats | describe _____ |
| <input type="checkbox"/> Other: _____ | |

SIGNOFF

Name of call recipient:

Print name _____

Signature _____

Date/Time: _____

Name of person completing form (if different from call recipient):

Print name _____

Signature _____

Date/Time: _____

Written Threat Report Form (RPTB Module 2, pp.87-89)

INSTRUCTIONS

The purpose of this form is to summarize significant information from a written threat received by a drinking water utility. This form should be completed by the WUERM or an individual designated by incident command to evaluate the written threat. The summary information provided in this form is intended to support the threat evaluation process; however, the completed form is not a substitute for the complete written threat, which may contain additional, significant details.

The written threat itself (e.g., the note, letter, e-mail message, etc.) may be considered evidence and thus should be minimally handled (or not handled at all) and placed into a clean plastic bag to preserve any forensic evidence.

Remember, tampering with a drinking water system is a crime under the SDWA Amendments!

SAFETY

A suspicious letter or package could pose a threat in and of itself, so caution should be exercised if such packages are received. The US Postal Service has issued guidance when dealing with suspicious packages (http://www.usps.com/news/2001/press/pr01_1022gsa.htm).

THREAT NOTIFICATION

Name of person receiving the written threat: _____

Person(s) to whom threat was addressed: _____

Date threat received: _____ **Time threat received:** _____

How was the written threat received?

- | | | |
|--|---|---|
| <input type="checkbox"/> US Postal service | <input type="checkbox"/> Delivery service | <input type="checkbox"/> Courier |
| <input type="checkbox"/> Fax | <input type="checkbox"/> E-mail | <input type="checkbox"/> Hand delivered |
| <input type="checkbox"/> Other _____ | | |

If mailed, is the return address listed? ☐ Yes ☐ No

If mailed, what is the date and location of the postmark? _____

If delivered, what was the service used (list any tracking numbers)? _____

If Faxed, what is the number of the sending fax? _____

If E-mailed, what is the e-mail address of sender? _____

If hand-delivered, who delivered the message? _____

DETAILS OF THREAT

Has the water already been contaminated?

☐ Yes

☐ No

Date and time of contaminant introduction known?

☐ Yes

☐ No

Date and time if known: _____

Location of contaminant introduction known?

☐ Yes

☐ No

Site Name: _____

Type of facility

☐ Source water

☐ Treatment plant

☐ Pump station

☐ Ground storage tank

☐ Elevated storage tank

☐ Finished water reservoir

☐ Distribution main

☐ Hydrant

☐ Service connection

☐ Other _____

Address: _____

Additional Site Information: _____

Name or type of contaminant known?

☐ Yes

☐ No

Type of contaminant

☐ Chemical

☐ Biological

☐ Radiological

Specific contaminant name/description: _____

Mode of contaminant introduction known?

☐ Yes

☐ No

Method of addition:

☐ Single dose

☐ Over time

☐ Other _____

Amount of material: _____

Additional Information: _____

Motive for contamination known?

☐ Yes

☐ No

☐ Retaliation/revenge

☐ Political cause

☐ Religious doctrine

☐ Other _____

Describe motivation: _____

NOTE CHARACTERISTICS

Perpetrator Information:

Stated name: _____

Affiliation: _____

Phone number: _____

Location/address: _____

Condition of paper/envelop:

- | | | |
|--|--|---|
| <input type="checkbox"/> Marked personal | <input type="checkbox"/> Marked confidential | <input type="checkbox"/> Properly addressed |
| <input type="checkbox"/> Neatly typed or written | <input type="checkbox"/> Clean | <input type="checkbox"/> Corrected or marked-up |
| <input type="checkbox"/> Crumpled or wadded up | <input type="checkbox"/> Soiled/stained | <input type="checkbox"/> Torn/tattered |
| <input type="checkbox"/> Other: _____ | | |

How was the note prepared?

- | | | |
|---|--|---|
| <input type="checkbox"/> Handwritten in print | <input type="checkbox"/> Handwritten in script | <input type="checkbox"/> Computer typed |
| <input type="checkbox"/> Machine typed | <input type="checkbox"/> Spliced (e.g., from other typed material) | |
| <input type="checkbox"/> Other: _____ | | |

If handwritten, does writing look familiar? ☐ Yes ☐ No

Language:

- | | |
|--|---------------------------------------|
| <input type="checkbox"/> Clear English | <input type="checkbox"/> Poor English |
| <input type="checkbox"/> Another language: _____ | |
| <input type="checkbox"/> Mixed languages: _____ | |

Writing Style

- | | | |
|---------------------------------------|--|-------------------------------------|
| <input type="checkbox"/> Educated | <input type="checkbox"/> Proper grammar | <input type="checkbox"/> Logical |
| <input type="checkbox"/> Uneducated | <input type="checkbox"/> Poor grammar/spelling | <input type="checkbox"/> Incoherent |
| <input type="checkbox"/> Use of slang | <input type="checkbox"/> Obscene | |
| <input type="checkbox"/> Other: _____ | | |

Writing Tone

- | | | |
|--|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> Clear | <input type="checkbox"/> Direct | <input type="checkbox"/> Sincere |
| <input type="checkbox"/> Condescending | <input type="checkbox"/> Accusatory | <input type="checkbox"/> Angry |
| <input type="checkbox"/> Agitated | <input type="checkbox"/> Nervous | <input type="checkbox"/> Irrational |
| <input type="checkbox"/> Other: _____ | | |

SIGNOFF

Name of individual who received the threat:

Print name _____

Signature _____ Date/Time: _____

Name of person completing form (if different from written threat recipient):

Print name _____

Signature _____ Date/Time: _____

Water Quality and Consumer Complaint Report Form

Water Quality Complaints

Unusual water quality results may serve as a warning of potential contamination if the data is available in real-time or near real-time. This type of threat warning could come from on-line monitoring, grab sampling, or an early warning system. Appendix 8.7 provides a “Water Quality and Consumer Complaints Report Form,” which may be useful when evaluating a threat warning due to unusual water quality.

Unusual water quality data should be evaluated against an established baseline that captures normal variability in the system, both temporally and spatially. Deviations from an established water quality baseline may serve as a threat warning and should be investigated to determine whether or not the results are indicative of potential contamination. In the absence of a baseline, it will be difficult to discriminate between normal variability and legitimate threat warnings – a situation that could lead to unacceptable false alarms.

It is also critical to evaluate a threat warning due to unusual water quality data in light of the performance characteristics of the monitoring and detection equipment. Factors to consider include the rate of false positives, false negatives, known interferences, and instrument reliability. The EPA Environmental Technology Verification (ETV) program has established an on-going program to evaluate the performance of hand held and on-line monitoring and detection technologies. Utilities considering the application of any monitoring technology should evaluate ETV verification reports, if available (www.epa.gov/etv). (*RPTB Module 2, pp. 23-24*)

Consumer Complaints

An unexplained or unusually high incidence of consumer complaints about the aesthetic qualities of drinking water, or minor health problems resulting from exposure to water (e.g., skin irritation), should be investigated as a potential threat warning. A number of chemicals can impart an odor or taste to water, some may discolor the water, and others might result in minor health problems in exposed individuals. It is also important to realize that a number of chemicals and all pathogens will have no impact on the aesthetic qualities of drinking water; thus, an absence of consumer complaints does not imply that the water is free of contaminants. When evaluating consumer complaints as a potential indicator of contamination, it is important to ask a series of questions:

- Are the complaints significantly different, with respect to number or type, from those associated with typical taste and odor episodes (such as those resulting from lake turnover or algal blooms)?
- What is the specific nature of the complaint? What is the characteristic odor, taste or color? What is the minor health problem experienced by customers?
- Is the reported taste, odor, or color different from those typically reported?
- Is the reported taste, odor, or color characteristic of a particular contaminant?
- Is there an unusual geographic clustering of complaints (e.g., are complaints isolated to a small area of the distribution system)?
- Are the complaints from customers that are not habitual complainers?

The answers to these questions will help to determine whether the complaints are indicative of a possible contamination incident, or typical of normal water quality conditions and routine episodes. Appendix 8.7 provides a “Water Quality and Consumer Complaints Report Form” that may be useful when evaluating a threat warning resulting from unusual consumer complaints.

In order for consumer complaints to be an effective trigger, a utility must have a 24/7 system in place to respond to consumer complaints in a timely fashion. Furthermore, complaint staff should be trained to recognize unusual trends in consumer complaints and have the tools necessary to characterize complaints by type and location. Unusual trends should be reported to the WUERM immediately. A useful resource that describes an approach for investigating consumer complaints as a potential indicator of contamination has been prepared by U.S. Army Center for Health Promotion and Preventative Medicine (2003). (*RPTB Module 2, p. 25*)

Water Quality / Consumer Complaint Report Form (RPTB Module 2, p. 90-91)

INSTRUCTIONS

This form is provided to guide the individual responsible for evaluating unusual water quality data or consumer complaints. It is designed to prompt the analyst to consider various factors or information when evaluating the unusual data. The actual data used in this analysis should be compiled separately and appended to this form. The form can be used to support the threat evaluation due to a threat warning from unusual water quality or consumer complaints, or another type of threat warning in which water quality data or consumer complaints are used to support the evaluation.

Note that in this form, water quality refers to both specific water quality parameters and the general aesthetic characteristics of the water that might result in consumer complaints.

Threat warning is based on: ☐ Water quality ☐ Consumer complaints ☐ Other

What is the water quality parameter or complaint under consideration?

Are unusual consumer complaints corroborated by unusual water quality data?

Is the unusual water quality indicative of a particular contaminant of concern? For example, is the color, order, or taste associated with a particular contaminant?

Are consumers in the affected area experiencing any unusual health symptoms?

What is 'typical' for consumer complaints for the current season and water quality?

Number of complaints.
Nature of complaints.
Clustering of complaints

What is considered to be 'normal' water quality (i.e., what is the baseline water quality data or level of consumer complaints)?

What is reliability of the method or instrumentation used for the water quality analysis?

Are standards and reagents OK?
Is the method/instrument functioning properly?

Based on recent data, does the unusual water quality appear to be part of a gradual trend (i.e., occurring over several days or longer)?

Are the unusual water quality observations sporadic over a wide area, or are they clustered in a particular area?

What is the extent of the area? A pressure zone. A neighborhood. A city block. A street. A building.

If the unusual condition isolated to a specific area:

Is this area being supplied by a particular plant or source water?

Have there been any operational changes at the plant or in the affected area of the system?

Has there been any flushing or distribution system maintenance in the affected area?

Has there been any repair or construction in the area that could impact water quality?

SIGNOFF

Name of person completing form:

Print name _____

Signature _____

Date/Time: _____

Public Health Information Report Form

Notification from a public health agency or health care providers (e.g., doctors or hospitals) regarding increased incidence of disease or death is another possible threat warning. This threat warning is obviously contingent on health care professionals associating patterns in exposure and symptoms with potential water supply contamination. A distinction should be made between a notification that comes from public health officials and one that comes directly from health care providers; the former deals with the health of a population, while the latter is concerned with the health of individual patients. Since safe drinking water is a cornerstone of public health, the utility should generally work directly with public health officials rather than individual health care providers. If a threat warning comes in from a health care provider, it should be immediately reported to the local or state public health agency.

A threat triggered by a public health notification is unique in that at least a segment of the population has presumably been exposed to a harmful substance. Given this circumstance, it is likely that public health officials will assume responsibility for incident command and may choose to handle the situation as an epidemiological investigation in an effort to track down the source. During a public health investigation, the utility should work with local or state health officials in a support role.

The role of the drinking water utility will likely be to assist in the evaluation of water as a possible source of the increased disease or death observed in the community. The “Public Health Information Report Form” included in Appendix 8.8 is intended to organize information from public health agencies in a manner to support this evaluation. If the *causative agent* is known (i.e., through clinical data), it may indicate whether or not water is a possible or likely source. For example, if the contaminant is unstable in water, the investigation might focus on other potential sources, such as food. (*RPTB Module 2, pp. 25-26*)

Public Health Information Report Form (RPTB Module 2, pp. 92-93)

INSTRUCTIONS

The purpose of this form is to summarize significant information about a public health episode that could be linked to contaminated water. This form should be completed by the WUERM or an individual designated by incident command. The information compiled in this form is intended to support the threat evaluation process.

In the case of a threat warning due to a report from public health, it is likely that the public health agency will assume incident command during the investigation. The drinking water utility will likely play a support role during the investigation, specifically to help determine whether or not water might be the cause.

PUBLIC HEALTH NOTIFICATION

Date and Time of notification: _____

Name of person who received the notification: _____

Contact information for individual providing the notification

Full Name: _____

Title: _____

Organization: _____

Address: _____

Day-time phone: _____

Evening phone: _____

Fax Number: _____

E-mail address: _____

Why is this person contacting the drinking water utility? _____

Has the state or local public health agency been notified? ☐ Yes ☐ No

If "No," the appropriate public health official should be immediately notified.

DESCRIPTION OF PUBLIC HEALTH EPISODE

Nature of public health episode:

☐ Unusual disease (mild)

☐ Unusual disease (severe)

☐ Death

☐ Other: _____

Symptoms:

☐ Diarrhea

☐ Vomiting/nausea

☐ Flu-like symptoms

☐ Fever

☐ Headache

☐ Breathing difficulty

☐ Other: _____

Describe symptoms: _____

Causative Agent: ☐ Known ☐ Suspected ☐ Unknown

If known or suspected, provide additional detail below

☐ Chemical

☐ Biological

☐ Radiological

Describe _____

Estimate of time between exposure and onset of symptoms: _____

Exposed Individuals:

Location where exposure is thought to have occurred

- | | | |
|---------------------------------------|--|---|
| <input type="checkbox"/> Residence | <input type="checkbox"/> Work | <input type="checkbox"/> School |
| <input type="checkbox"/> Restaurant | <input type="checkbox"/> Shopping mall | <input type="checkbox"/> Social gathering |
| <input type="checkbox"/> Other: _____ | | |

Additional notes on location of exposure: _____

Collect addresses for specific locations where exposure is thought to have occurred.

Is the pattern of exposure clustered in a specific area? ☐ Yes ☐ No

Extent of area

- | | | |
|--|--|--|
| <input type="checkbox"/> Single building | <input type="checkbox"/> Complex (several buildings) | <input type="checkbox"/> City block |
| <input type="checkbox"/> Neighborhood | <input type="checkbox"/> Cluster of neighborhoods | <input type="checkbox"/> Large section of city |
| <input type="checkbox"/> Other: _____ | | |

Additional notes on extent of area: _____

Do the exposed individuals represent a disproportionate number of:

- | | | |
|--|---|-----------------------------------|
| <input type="checkbox"/> Immune compromised | <input type="checkbox"/> Elderly | <input type="checkbox"/> Children |
| <input type="checkbox"/> Infants | <input type="checkbox"/> Pregnant women | <input type="checkbox"/> Women |
| <input type="checkbox"/> Other: _____ | | |
| <input type="checkbox"/> None, no specific groups dominate the makeup of exposed individuals | | |

EVALUATION OF LINK TO WATER

Are the symptoms consistent with typical waterborne diseases, such as gastrointestinal disease, vomiting, or diarrhea? ☐ Yes ☐ No

Does the area of exposure coincide with a specific area of the system, such as a pressure zone or area feed by a specific plant? ☐ Yes ☐ No

Were there any consumer complaints within the affected area? ☐ Yes ☐ No

Were there any unusual water quality data within the affected area? ☐ Yes ☐ No

Were there any process upsets or operational changes? ☐ Yes ☐ No

Was there any construction/maintenance within the affected area? ☐ Yes ☐ No

Were there any security incidents within the affected area? ☐ Yes ☐ No

SIGNOFF

Name of person completing form:

Print name _____

Signature _____

Date/Time: _____